

Application Serial No. 09/380,208

Patent
Attorney's Docket No. 000500-196**REMARKS**

Claims 15-42 are pending in the application. Claim 15 was amended to add additional clarity to the subject matter of the claim. This amendment does not narrow the scope of the claim.

Claims 15-28 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Although Applicants believe claim 15 was clear as written, numbers separating elements of the claim have been added for additional clarity. Claim 15 is directed to a method of achieving in an absorbent article an improved sealing ability as set forth. The absorbent article includes the elements (1), (2) and (3), wherein (3) may be a) or b). Thus, the second paragraph clearly applies to both scenarios a) and b). In view thereof, Applicants respectfully request that this rejection be withdrawn.

Claims 15, 25-36 and 40-42 were rejected under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over Roe, U.S. Patent No. 5,607,760. Applicants respectfully traverse this rejection.

The invention as defined in rejected independent claim 15 is directed to an improved sealing ability of an absorbent article comprising modifying or treating the absorbent article in such a way as to cause the absolute value of $\Delta P = 2\gamma \cos\theta m/r$ for the sealing edge to increase. The absolute value of $\Delta P = 2\gamma \cos\theta m/r$ may be increased by influencing the wetting angle between the liquid to be sucked up and the skin or the barrier material; influencing the pore radius, i.e., the capillary radius, formed between the barrier material and the skin; and by influencing both wetting angle and pore radius.

Application Serial No. 09/380,208

Patent
Attorney's Docket No. 000500-196*Page 13, lines 10-15.*

The invention as defined in claim 29 is directed to an absorbent article that includes an absorbent body disposed between a liquid-impermeable bottom sheet which is intended to lie distal from a wearer in use, a liquid-permeable upper sheet which is intended to lie proximal to the wearer, and either 1) at least one longitudinally extending liquid barrier on each side of a center line of the upper sheet, made of essentially liquid-impervious material and fastened along or adjacent to a respective longitudinally extending side extremity of the article and including a free elastic sealing edge intended to be stretched against the wearer, or 2) above the upper sheet, a liquid-impermeable top sheet which is intended to lie against the wearer, includes elastic for shaping the article to the wearer's body, and includes apertures intended to lie in register with the anus and the urethra orifice of the wearer, around which apertures elastically puckered sealing edges are disposed in the top sheet. In respect of at least one sealing edge on each side of the center line of said absorbent body, the absolute value of $\Delta P = 2\gamma \cos\theta m/r$ lies above a line $y = kx + m$, where x designates the available elongation of the sealing edge, k has the value $-14/30$ and m has a value in the range of 48 to 69, within the major part of an available elongation range of between 20 and 40 %, and where γ designates the surface tension of a liquid to be absorbed, r designates the radius of the largest circle that can be enclosed in any pore with walls formed by the sealing edge against the skin of the wearer at a given available elongation, and $\cos\theta m$ is the weighted value of $\cos\theta$, where θ is the wetting angle of the liquid to the sealing edge or the skin comprising the pore walls.

Roe, to the contrary, discloses a disposable absorbent article having a lotion coating on the outer surface of the topsheet that is semisolid or solid at ambient temperatures (i.e., at 20°C) and is adapted to be transferred to the wearer's skin, where

Application Serial No. 09/380,208

Patent
Attorney's Docket No. 000500-196

it acts to reduce the adherence of BM to the skin of the wearer, thereby improving the ease of BM clean up and enhancing skin softness. *Column 3, lines 1-9.*

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The rejected claims are directed to a method or an absorbent article wherein the absorbent article is modified or treated in such a way as to cause the absolute value of $\Delta P = 2\gamma \cos\theta m/r$ for the sealing edge to increase or wherein the absolute value of $\Delta P = 2\gamma \cos\theta m/r$ lies above a line $y = kx + m$, where x designates the available elongation of the sealing edge, k has the value $-14/30$ and m has a value in the range of 48 to 69, within the major part of an available elongation range of between 20 and 40 %.

These features are not found in Roe. For example, Roe does not disclose increasing the absolute value of $\Delta P = 2\gamma \cos\theta m/r$, with the resultant advantages as explained in the application, nor does Roe suggest increasing the absolute value by influencing wetting angle or pore radius to improve sealing. Rather, Roe specifically requires the use of a topsheet and lotion thereon which is hydrophilic to promote transfer of liquids. Although Roe mentions the use of a hydrophobic material, Roe specifically teaches that this material must be made hydrophilic prior to use. Additionally, every teaching in Roe describes, requires, or suggests that the lotion described be hydrophilic. There is no teaching of using a material which is hydrophobic without first converting such material by the addition of a hydrophilic surfactant. *Column 21, lines 40-61*. Thus, the teachings of Roe would not result in an increase in the absolute value of $\Delta P = 2\gamma \cos\theta m/r$. Since Roe does not disclose each and every feature of the rejected claims, Applicants respectfully request that the anticipation rejection over Roe be withdrawn.

Application Serial No. 09/380,208

Patent
Attorney's Docket No. 000500-196

Likewise, the teachings of Roe would not have made the claimed invention obvious to one of skill in the art. Nothing is mentioned in this document about solving the problem with leakage at the standing barrier. Rather, the problem discussed is to reduce the adherence of BM to the skin of the wearer and to have a top sheet which is wettable. Moreover, the teachings would not have led one of skill in the art to the present invention since the lotion in Roe is hydrophilic. Despite the arguments to the contrary in the Office Action, an overall reading of Roe is that the lotion should be hydrophilic. No distinction is made between using the lotion on the topsheet and on other portions of the absorbent product.

Moreover, the purpose with adding the lotion in Roe is to ensure that the pores through the top sheet are not clogged, or decreased, in size. The pores in the top sheet are very small pores, formed between the fibers in the non-woven material. The pores between the user and the puckered edge are very large compared with the pores in the top sheet and if the pores between the skin of the user and the cuffs would decrease by use of the lotion taught by Roe, the decrease would be negligible, not enough to increase the absolute value of $\Delta P = 2\gamma \cos\theta / r$. Rather, the absolute value would decrease since the lotion is hydrophilic.

In view of the foregoing, Roe would not have made the invention as defined in the rejected claims obvious to one of skill in the art. Applicants, therefore, respectfully request that this rejection be withdrawn.

Claims 16-24 and 37-39 were rejected under 35 U.S.C. § 103(a) as obvious over Roe. Applicants respectfully traverse this rejection.

As discussed above, the description in Roe is of a hydrophilic lotion applied to an absorbent article to reduce the adherence of BM to the skin of the wearer. Nothing in this description would have served to make the invention as defined in the rejected

Application Serial No. 09/380,208

Patent
Attorney's Docket No. 000500-196

claims obvious. Roe does not discuss or suggest solving problems of leakage at the standing barrier or the solution presently claimed. In view thereof, Applicants respectfully request that this rejection be withdrawn.

Further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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I hereby certify that this correspondence is being filed by facsimile transmission to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA. 22313-1450, to facsimile number 1.703. 872.9306 on this date, September 23, 2003.

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